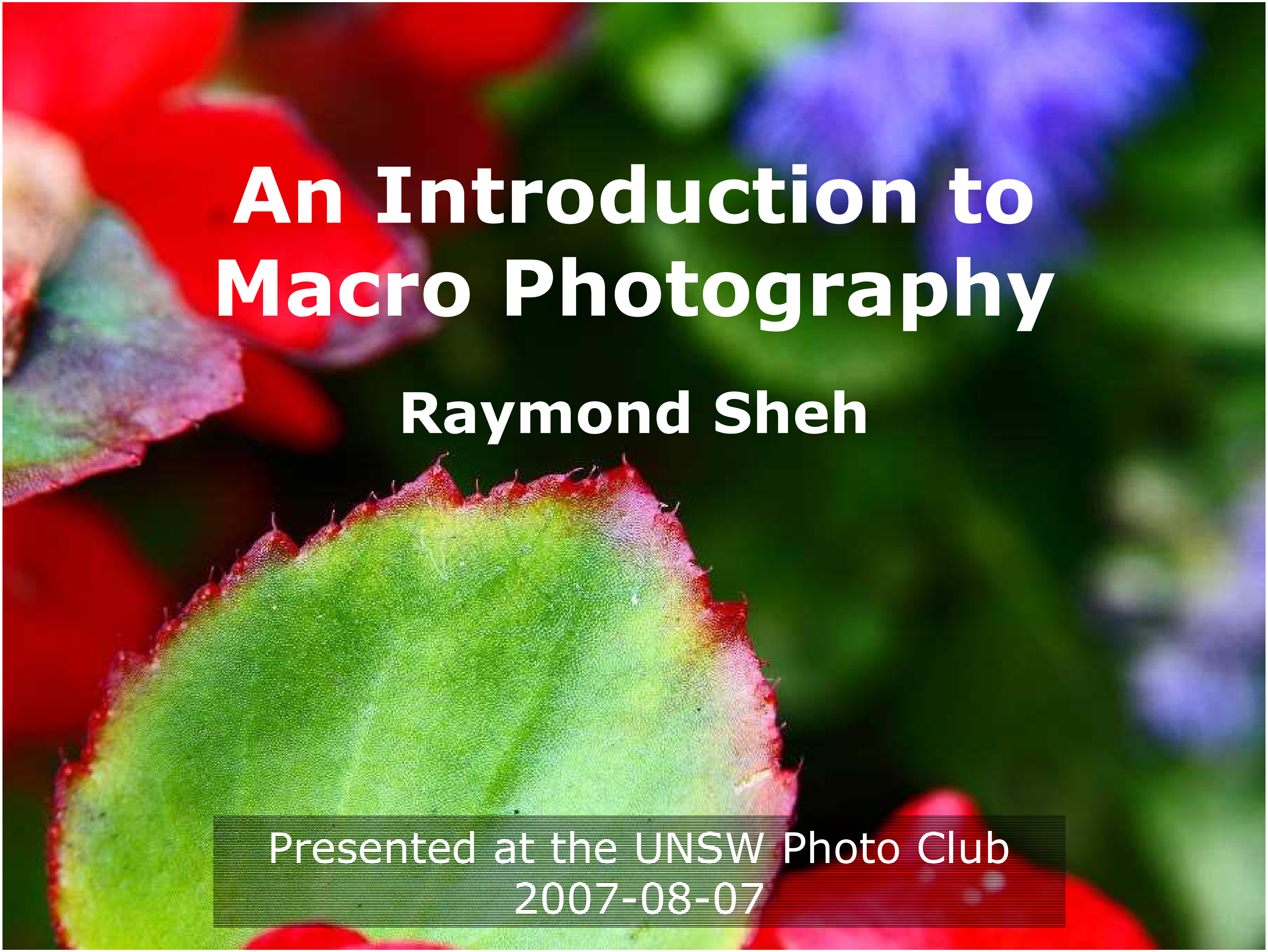


An Introduction to Macro Photography

Raymond Sheh

Presented at the UNSW Photo Club
2007-08-07

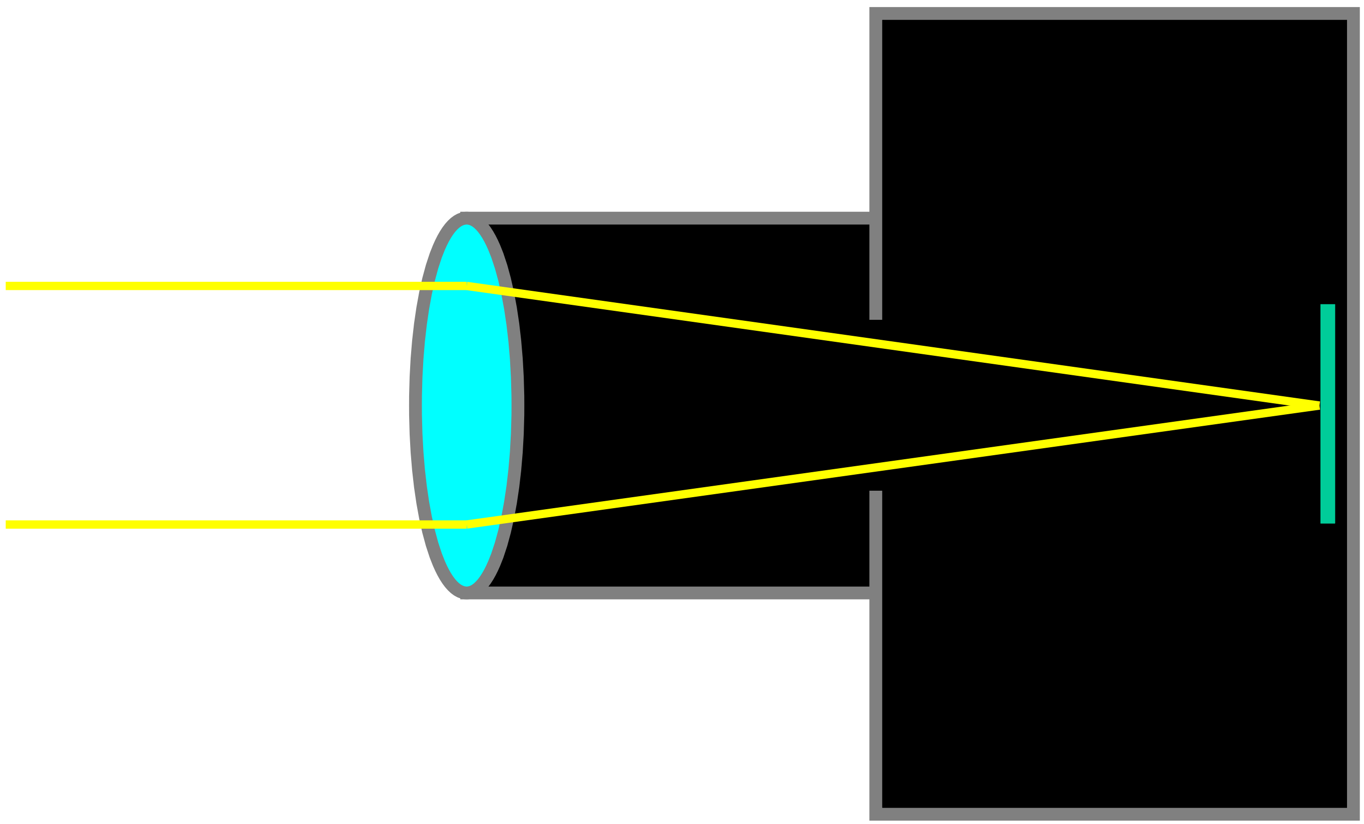
Outline

- Photographic Principles
- Equipment
- Technique
- Finding subjects
- Hands-On

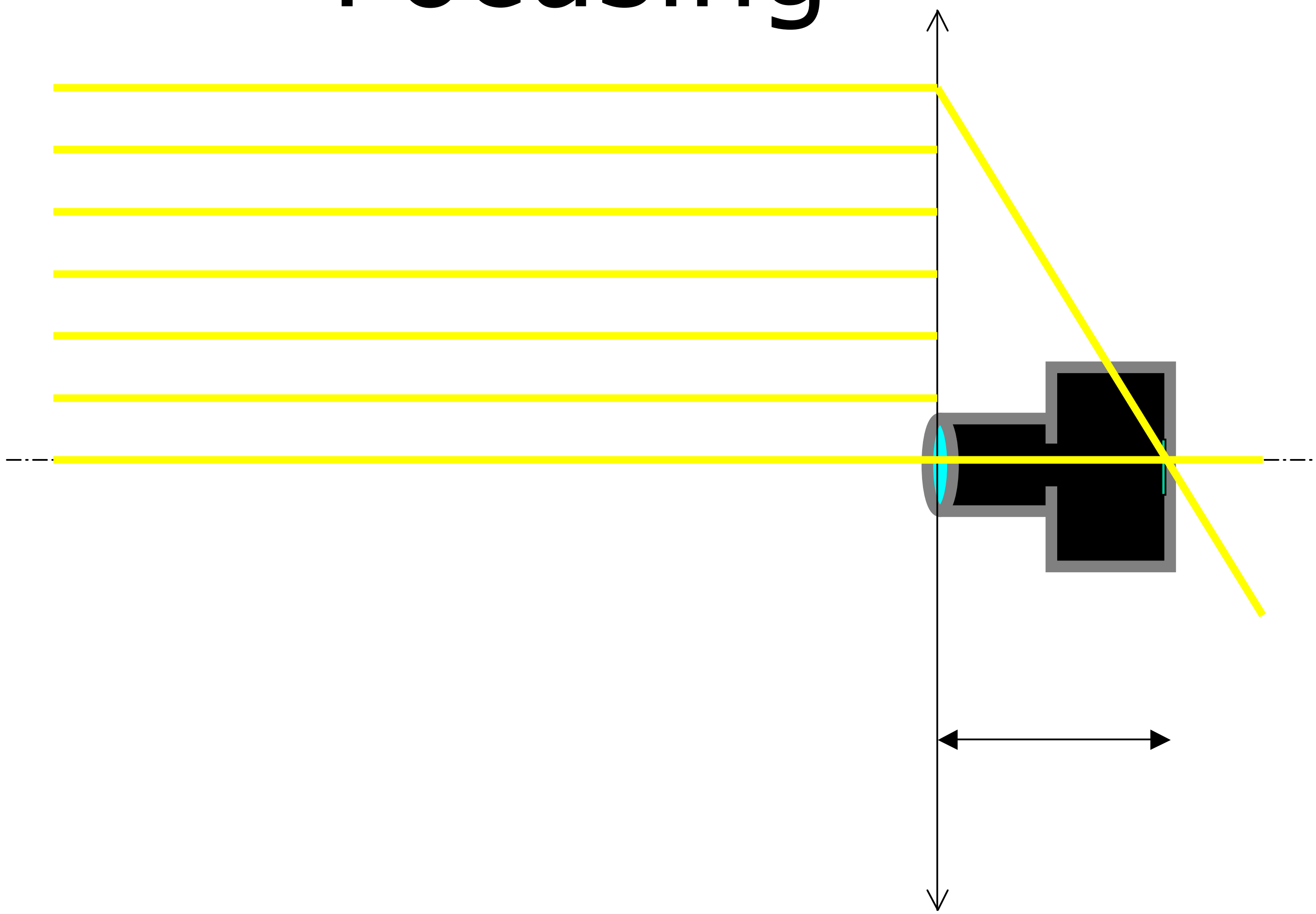
Photographic Principles: Focusing

- To focus close to the camera, we need to move the lens away from the sensor.

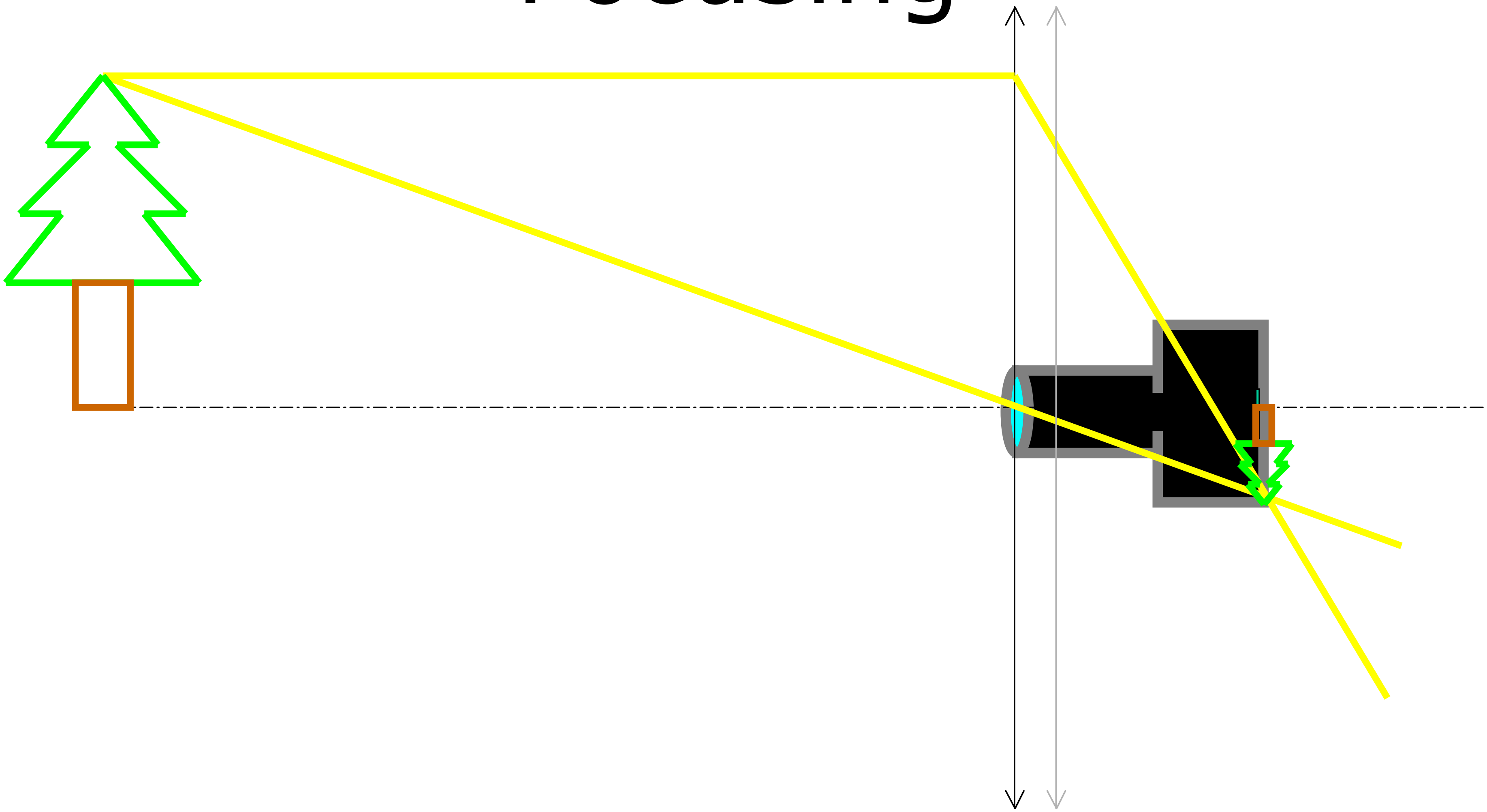
Photographic Principles: Focusing



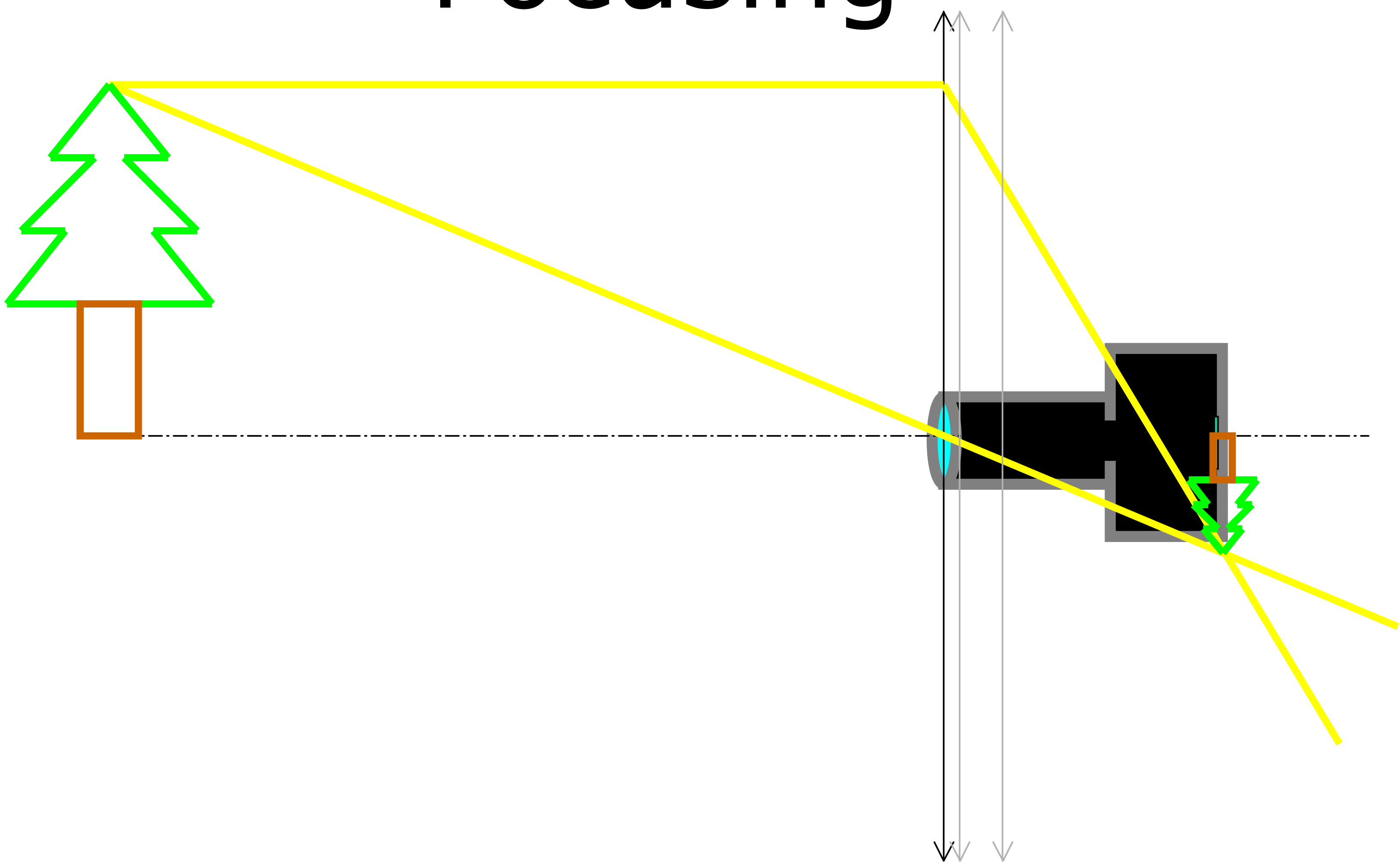
Photographic Principles: Focusing



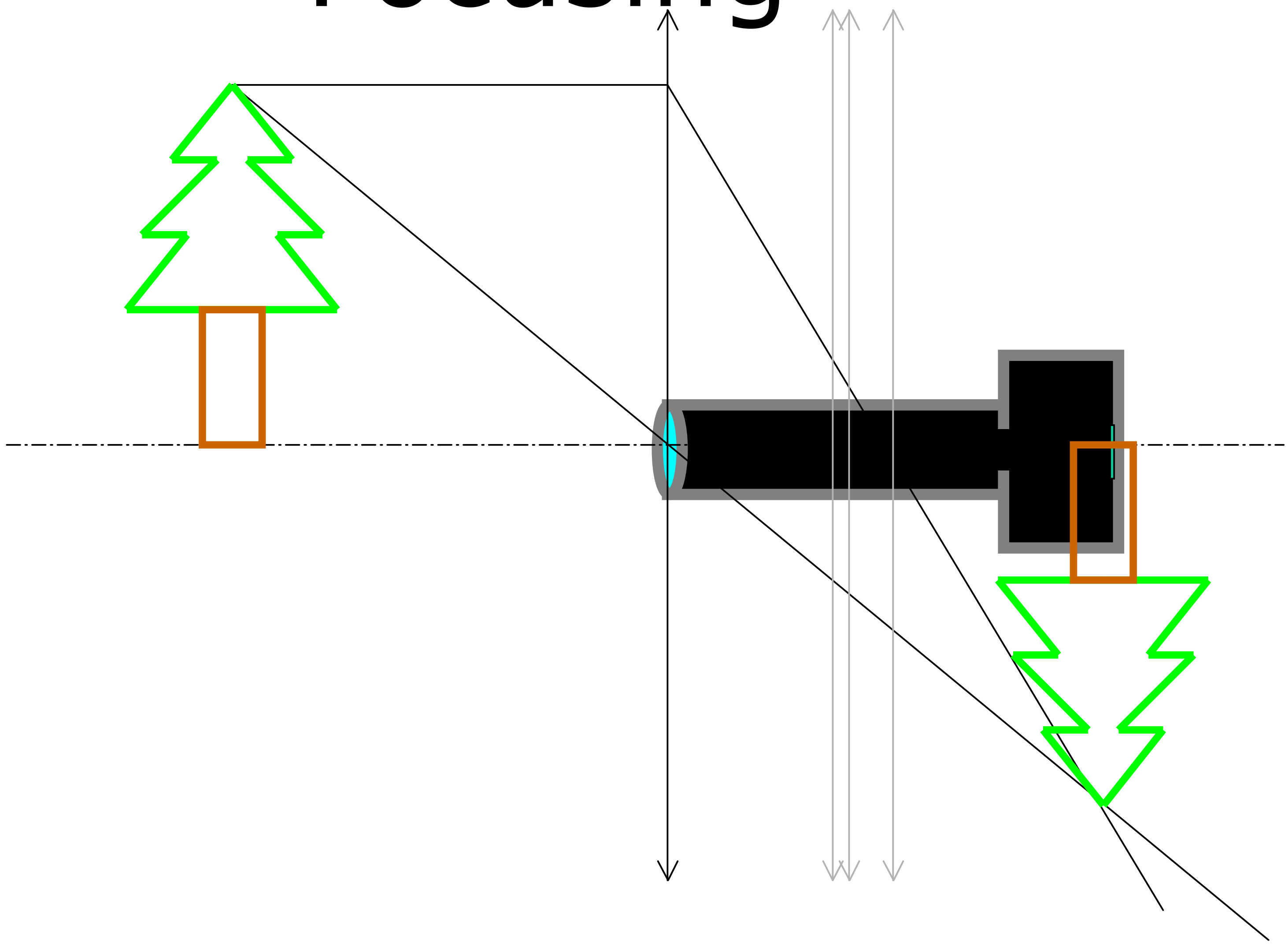
Photographic Principles: Focusing



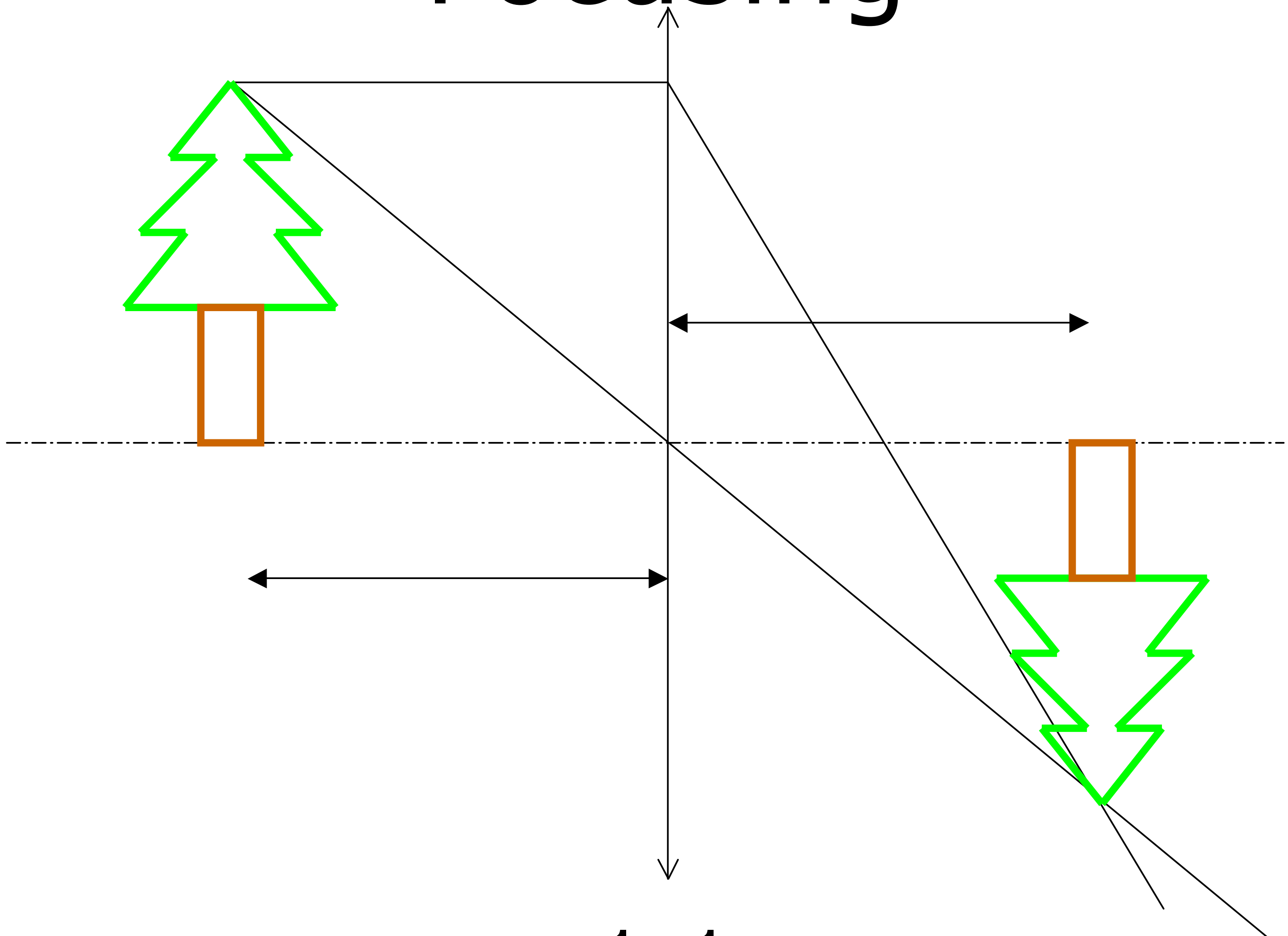
Photographic Principles: Focusing



Photographic Principles: Focusing



Photographic Principles: Focusing

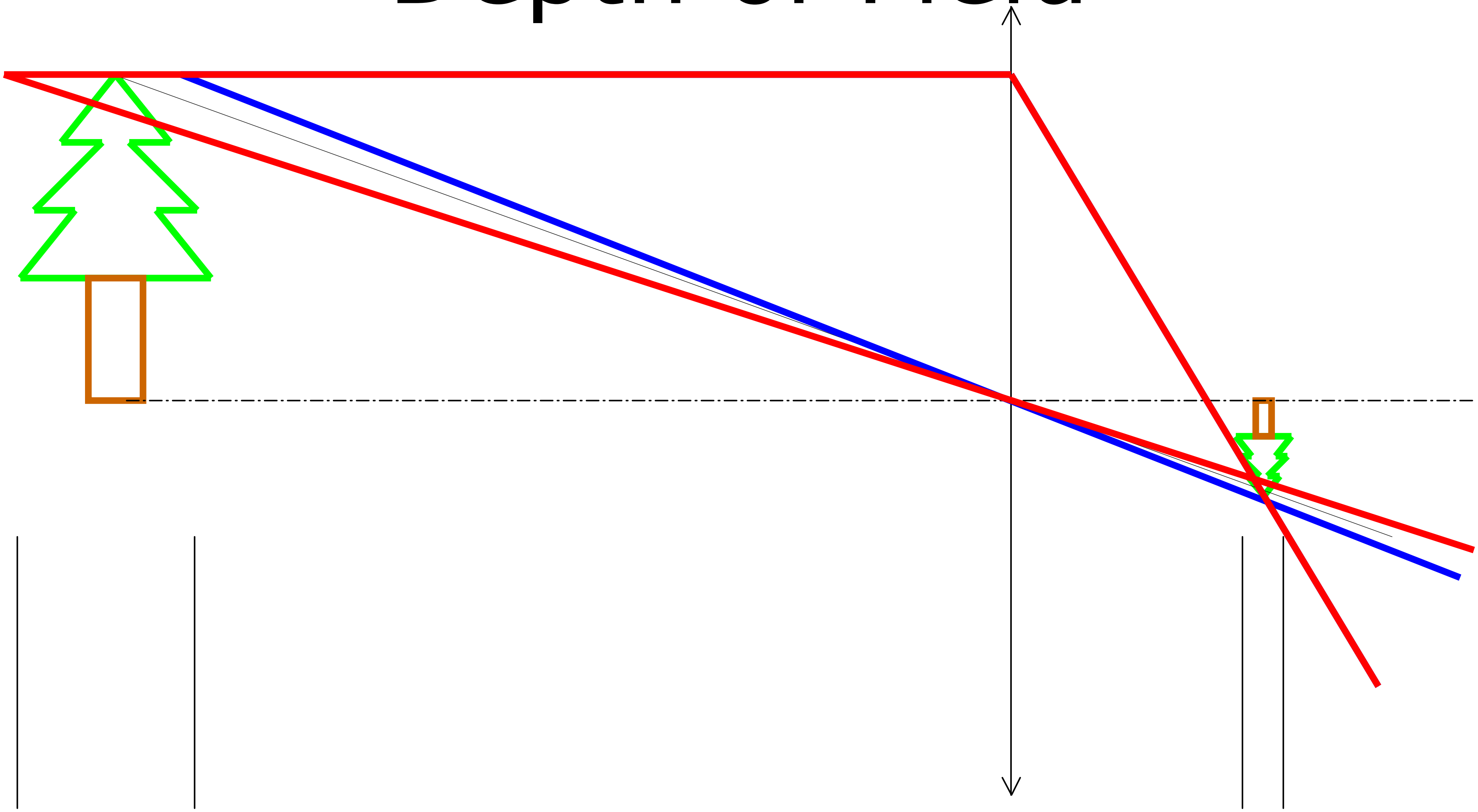


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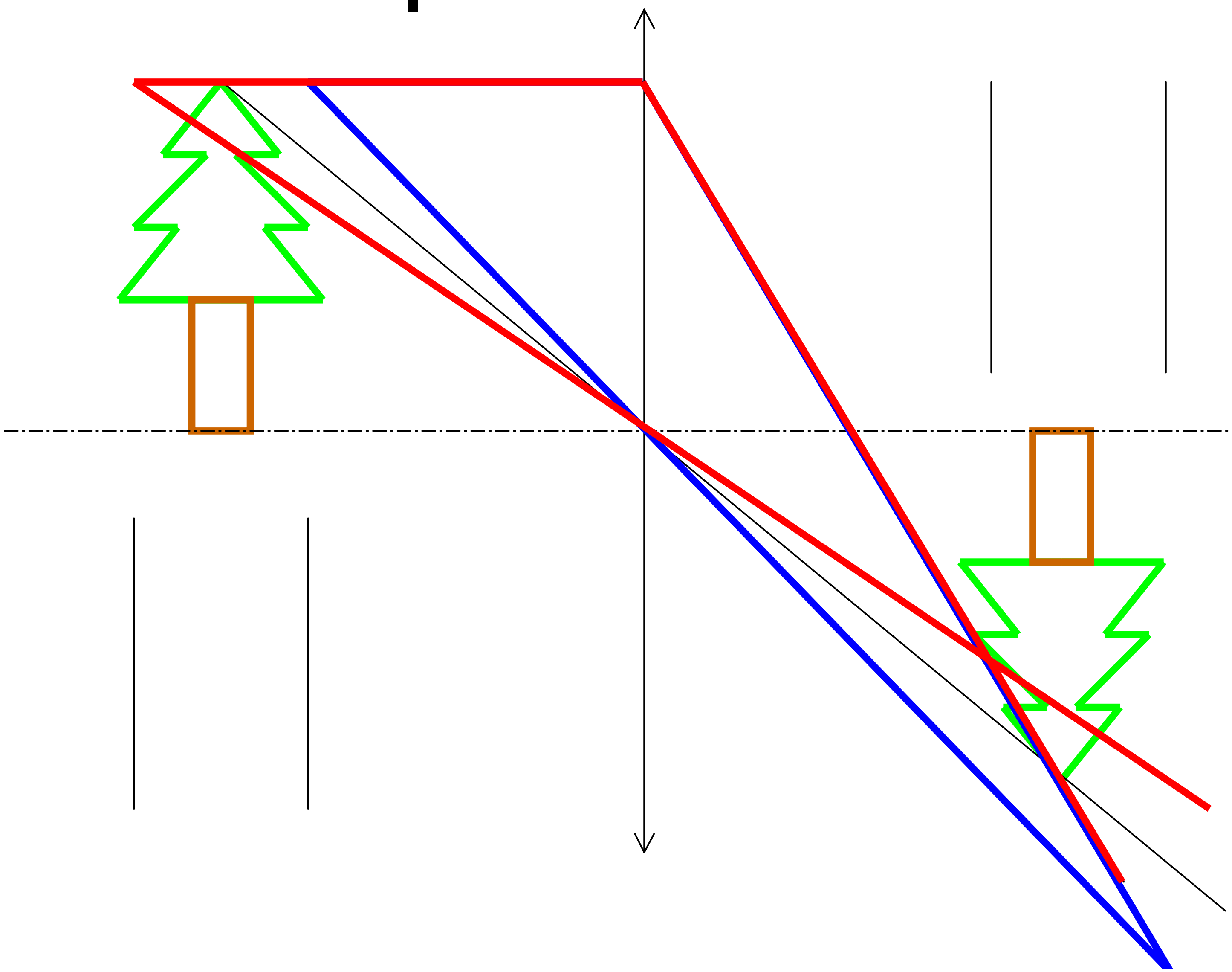
Photographic Principles: Depth of Field

- This causes the main characteristic with macro photography – a lack of Depth of Field (DOF).

Photographic Principles:
Depth of Field



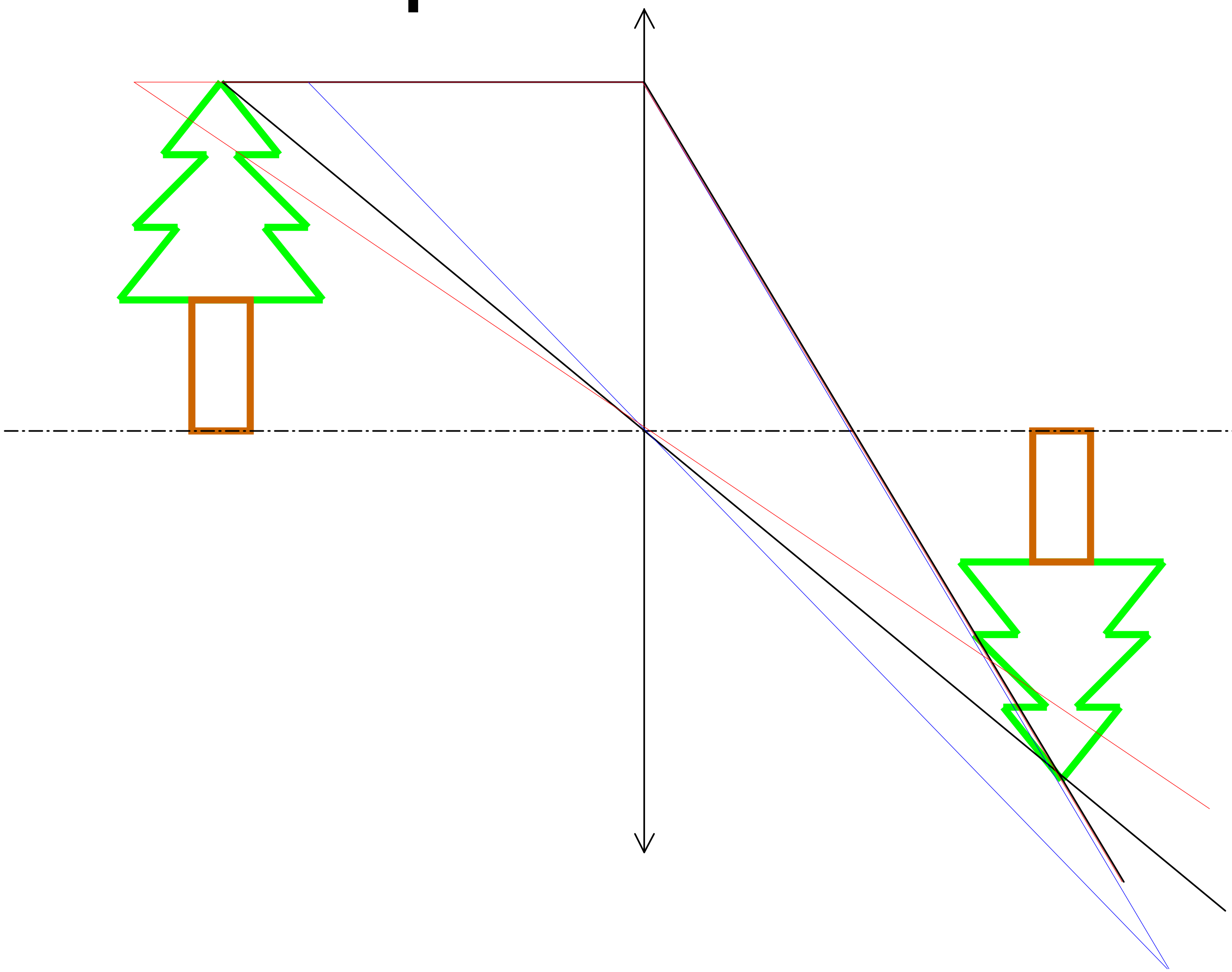
Photographic Principles: Depth of Field



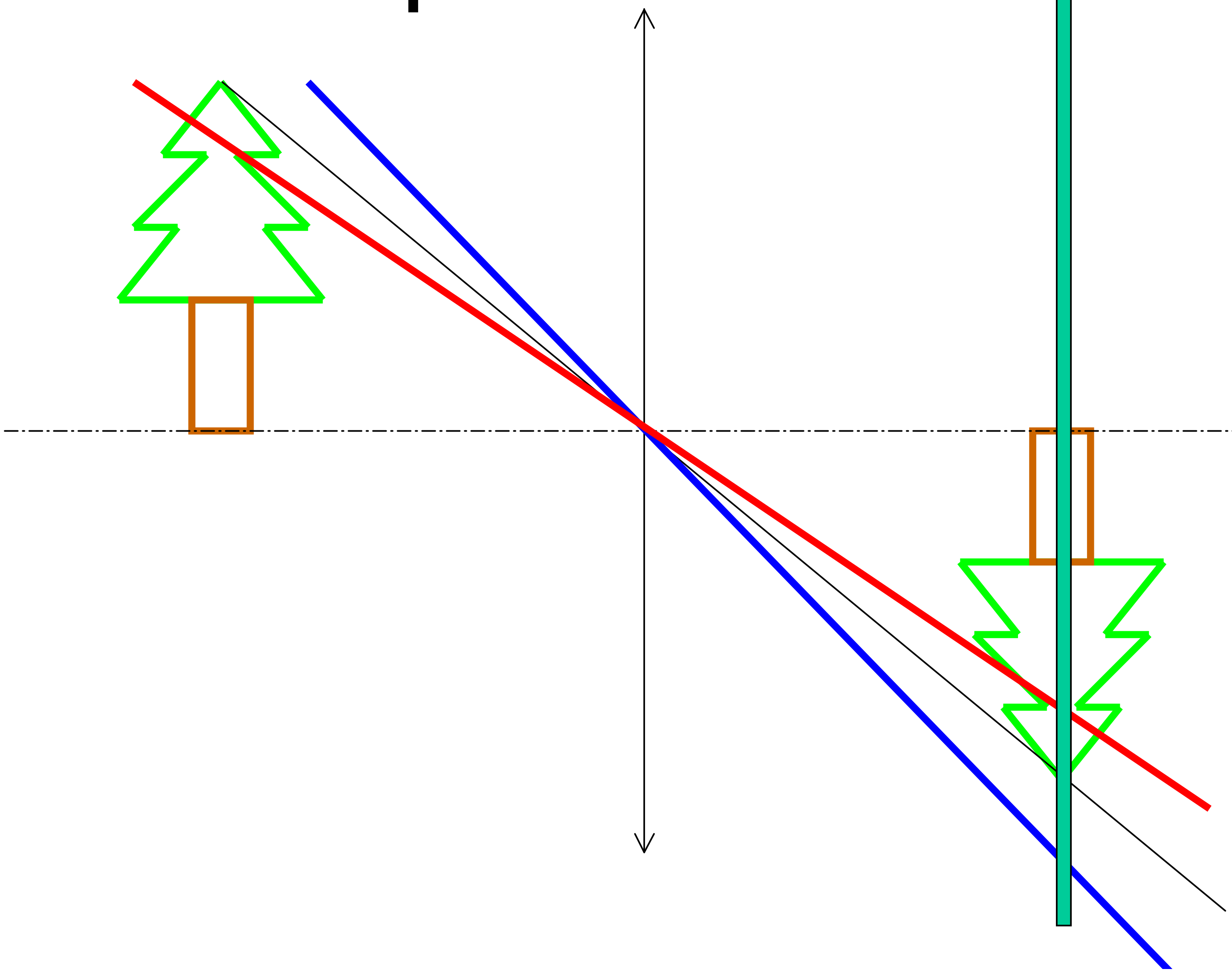
Photographic Principles: Depth of Field

- Making the aperture smaller reduces the number of light paths
- This increases depth-of-field
- A pinhole camera has infinite DOF

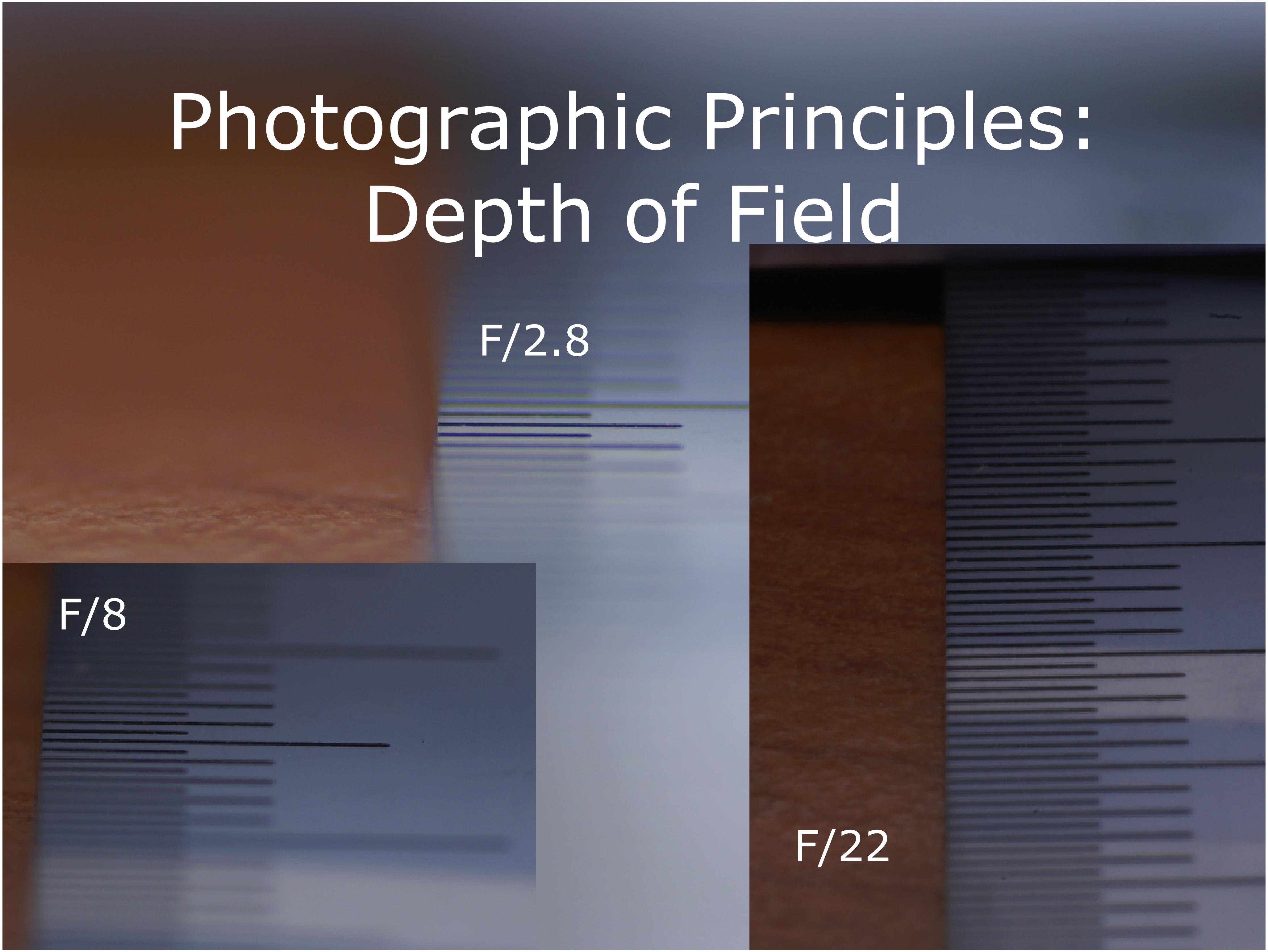
Photographic Principles: Depth of Field



Photographic Principles: Depth of Field



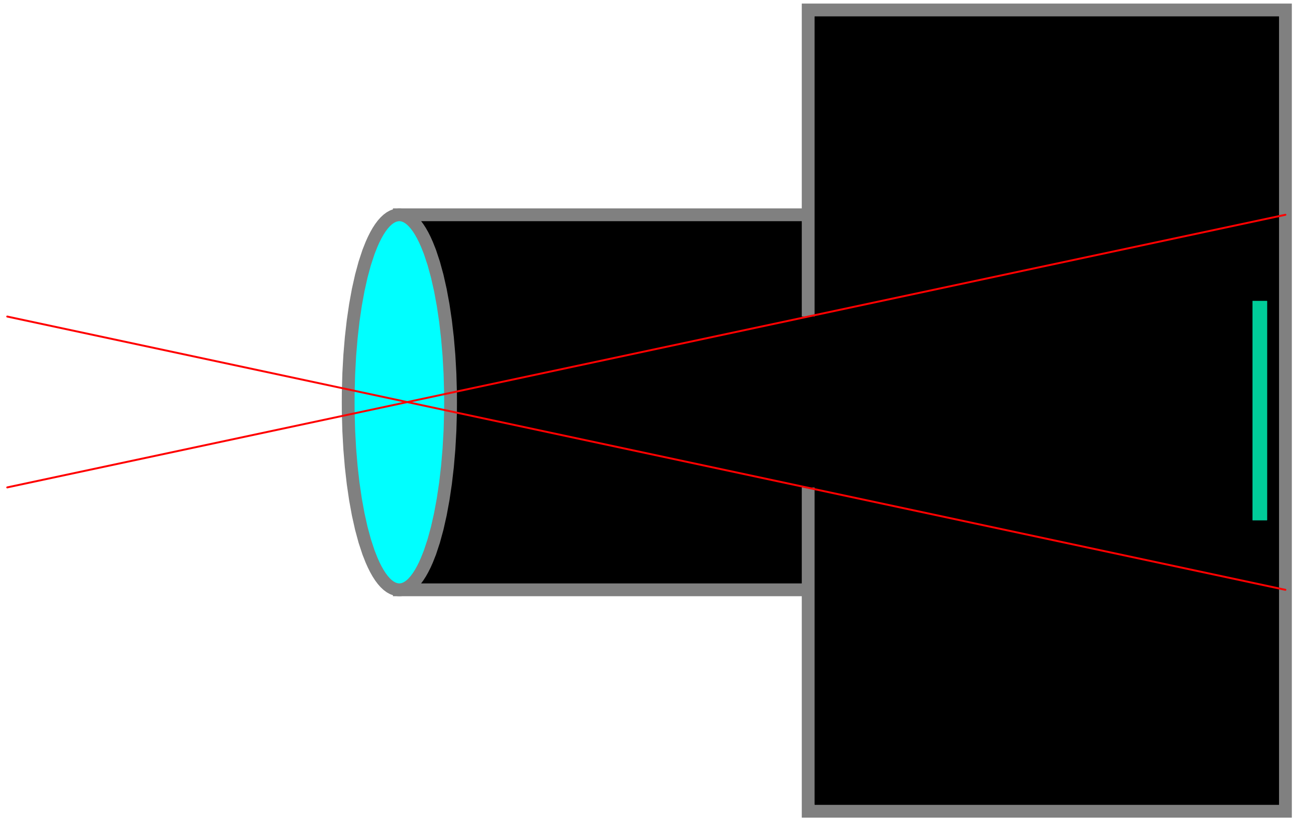
Photographic Principles: Depth of Field



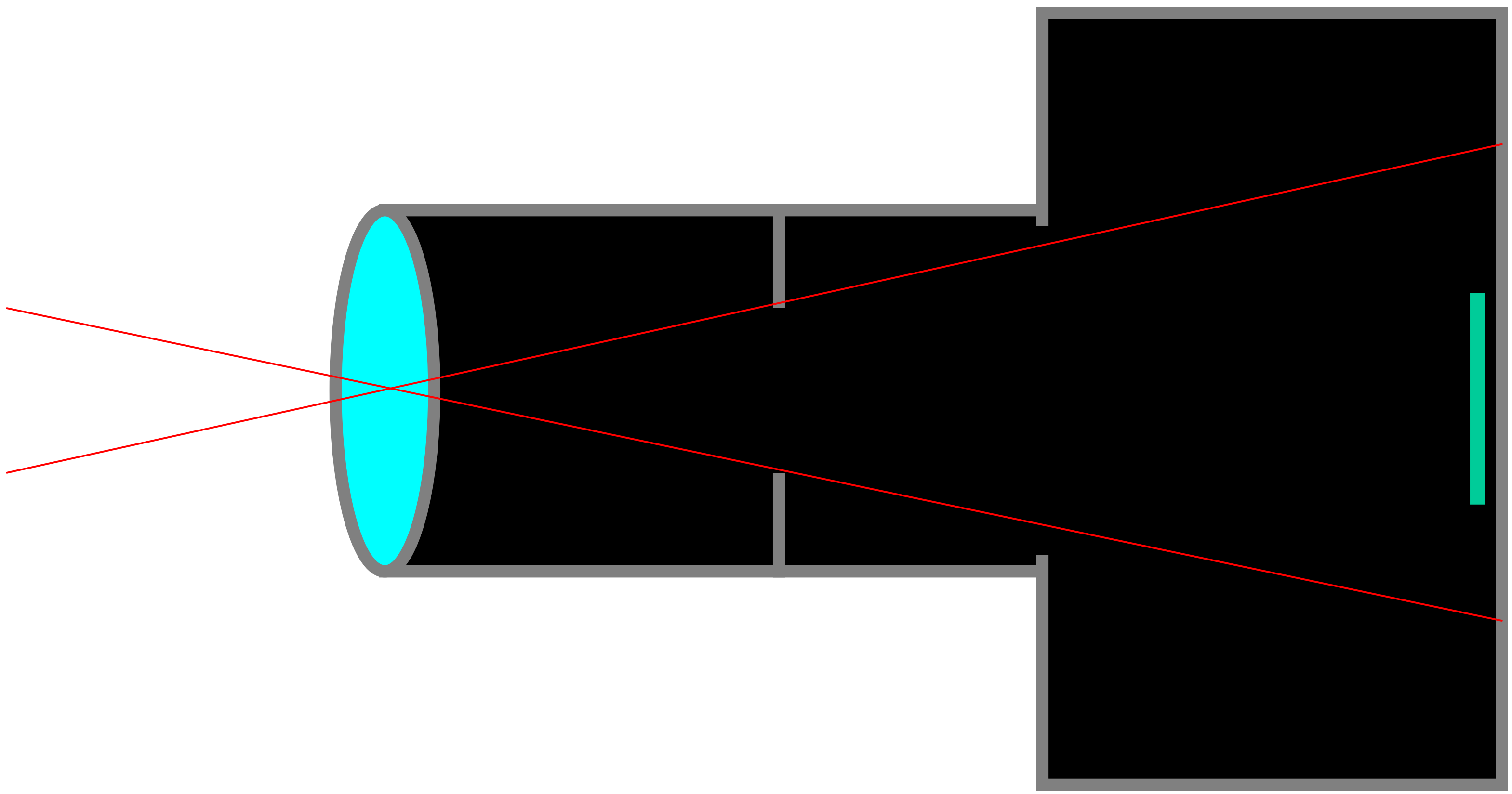
Photographic Principles: Depth of Field

- Three problems with “stopping down”.
  - Diffraction becomes significant
  - Dirt and imperfections appear
  - You need a LOT more light
    - This is compounded by the fact that you lose light as you move the lens away from the sensor

Photographic Principles:



Photographic Principles:



Equipment

- Thus we need special equipment to solve the problems:
  – How do you focus up close?
  – How do you hold the camera steady enough to both frame the shot (in 3D) and perform the long exposure?
  – How do you get enough light into the camera?

Focusing Close: Macro Mode



Focusing Close: Macro Mode

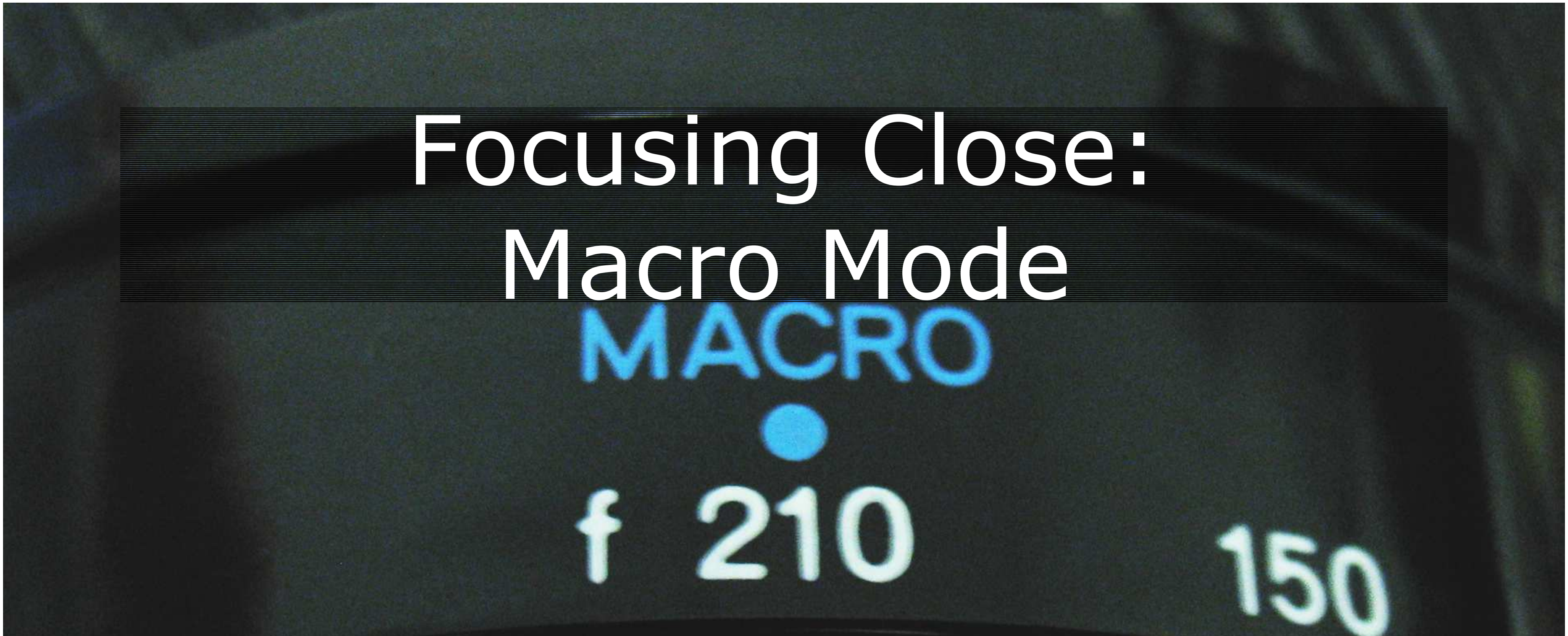


Focusing Close: Macro Mode





Focusing Close: Macro Mode





Focusing Close: Macro Mode, DSLR vs P&S





Focusing Close: Macro Mode, DSLR vs P&S





Focusing Close: Closeup filters (diopters)



Focusing Close: Closeup filters (diopters)




Focusing Close: Extension Tubes and Teleconverters





Focusing Close: Extension Tubes and Teleconverters





Focusing Close: Reversing Lenses



Focusing Close: Macro Lenses



Focusing Close: Macro Lenses



Focusing Close: Macro Lenses



Focusing Close: Macro Lenses







Holding the camera: Supported

- A tripod is useful for good shots
  - Ball heads are often more useful than pan heads
- Watch for the wind
- Disable stabilisers
- Set focus and shift the camera or subject
  - Focus rails can help





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Holding the camera: Handheld

- Tuck arms in
- Hold breath
- You will rock slightly, try and time it to when you’re moving the least
- If available, turn on image stabilisation
- Try using the short timer
- Try using continuous drive

Lighting the scene: Daylight

- Bright daylight in the early morning or mid afternoon seems to work well
- Make sure the lens doesn’t shadow the subject
- Keep in mind which way the light is coming from

Lighting the scene: Daylight



Lighting the scene: Daylight



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Lighting the scene: Flash





Lighting the scene: Flash



Lighting the scene: Flash



Lighting the scene



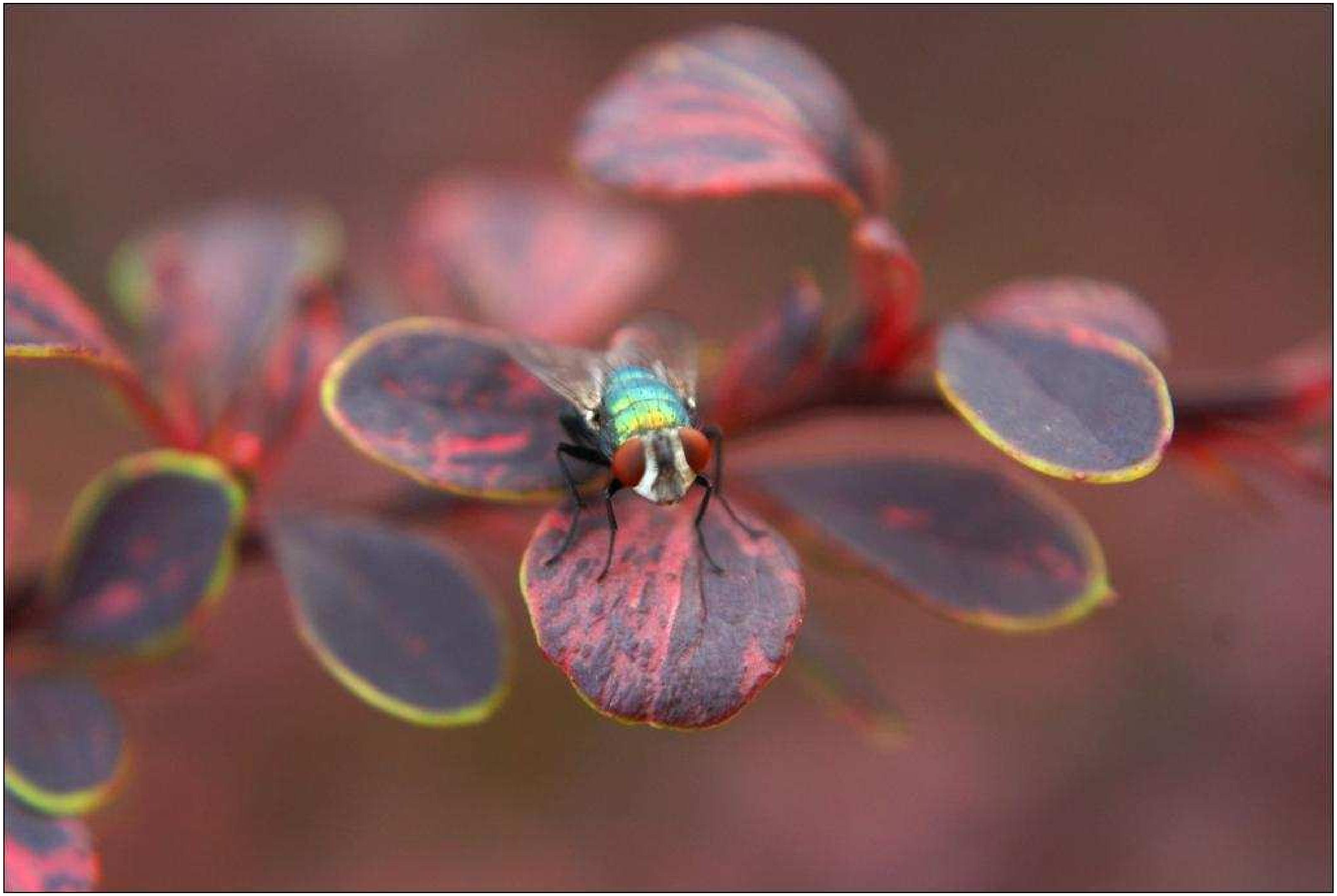
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Lighting the scene




Artistic Issues
• Finding a Subject
• Composition in 3D
• Background and Bokeh

Finding a Subject



Finding a Subject



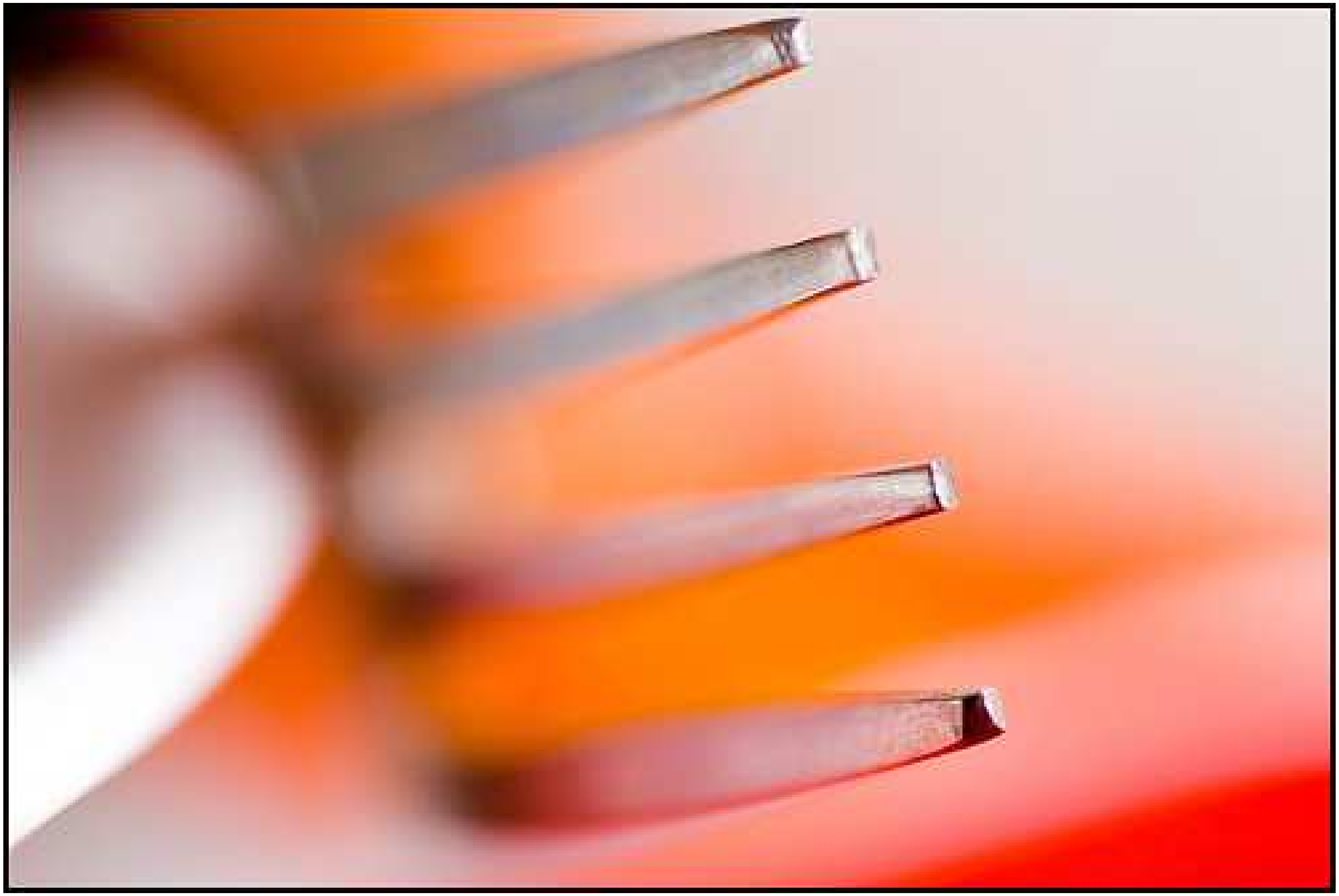
Finding a Subject



Finding a Subject



Finding a Subject



Finding a Subject



Finding a Subject



Finding a Subject



Composition in 3D



- Narrow DOF means one must compose in depth as well as in framing.

Composition in 3D



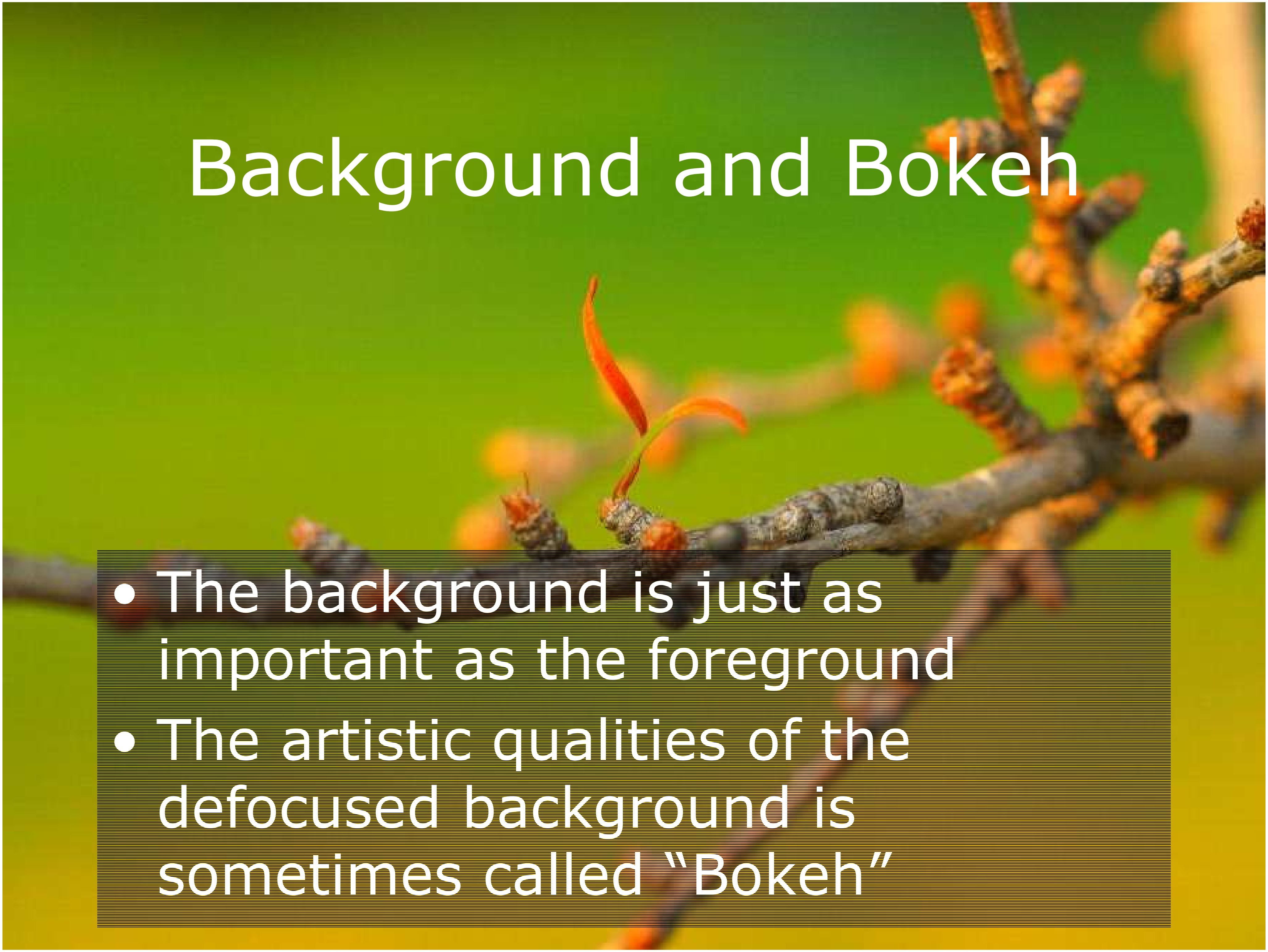
Composition in 3D



Composition in 3D



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Background and Bokeh
• The background is just as important as the foreground
• The artistic qualities of the defocused background is sometimes called "Bokeh"

Background and Bokeh



Background and Bokeh



Background and Bokeh



Background and Bokeh



Background and Bokeh



Background and Bokeh



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Background and Bokeh



Hands-On

- Find interesting angles on everyday objects
- Keep depth-of-field in mind
- Think about what the background will look like
- Hold the camera steady or put it on something